

NIST Special Publication 800-104  
**DRAFT**

# A Scheme for PIV Visual Card Topography



**National Institute of  
Standards and Technology**  
Technology Administration  
U.S. Department of Commerce

**William MacGregor  
Teresa Schwarzhoff  
Ketan Mehta**

## INFORMATION SECURITY

Information Technology Laboratory  
National Institute of Standards and Technology  
Gaithersburg, MD, 20899-8930

***January 2007***



**U.S. Department of Commerce**  
*Carlos M. Gutierrez, Secretary*

**Technology Administration**  
Robert C. Cresanti, Under Secretary of Commerce for  
Technology

**National Institute of Standards and Technology**  
*William Jeffrey, Director*

## **REPORTS ON COMPUTER SYSTEMS TECHNOLOGY**

The Information Technology Laboratory (ITL) at the National Institute of Standards and Technology (NIST) promotes the U.S. economy and public welfare by providing technical leadership for the Nation's measurement and standards infrastructure. ITL develops tests, test methods, reference data, proof of concept implementations, and technical analyses to advance the development and productive use of information technology. ITL's responsibilities include the development of management, administrative, technical, and physical standards and guidelines for the cost-effective security and privacy of non-national security-related information in Federal information systems. This special publication 800-series reports on ITL's research, guidelines, and outreach efforts in information system security, and its collaborative activities with industry, government, and academic organizations.

**National Institute of Standards and Technology Special Publication 800-104, 9 pages  
(January 2007)**

## **Acknowledgements**

The authors, William MacGregor and Teresa Schwarzhoff of the National Institute of Standards and Technology (NIST) and Ketan Mehta of Mehta Inc, wish to thank their colleagues who reviewed drafts of this document and contributed to its development. The authors gratefully acknowledge and appreciate the support received from US Government Printing Office (GPO), US Department of Defense (DoD), Office of Management and Budget (OMB), General Services Administration (GSA), US Department of Agriculture (USDA), and the Interagency Security Committee (ISC) in developing this document.

Table of Contents

**1. Introduction ..... 1**

    1.1 Authority ..... 1

    1.2 Purpose and Scope ..... 1

**2. Color-coding for Employee Affiliation ..... 2**

    2.1 Zones 15 and 12 ..... 2

    2.2 Zones 13 and 14 ..... 4

    2.3 Color Representation ..... 4

**3. References ..... 5**

List of Figures

Figure 1. Employee Affiliation Color-coding ..... 2

Figure 2. Foreign National Color-coding ..... 3

List of Tables

Table 1. Color Representation ..... 4

## **1. Introduction**

### **1.1 Authority**

This document has been developed by the National Institute of Standards and Technology (NIST) in furtherance of its statutory responsibilities under the Federal Information Security Management Act (FISMA) of 2002, Public Law 107-347.

NIST is responsible for developing standards and guidelines, including minimum requirements, for providing adequate information security for all agency operations and assets, but such standards and guidelines shall not apply to national security systems. This recommendation is consistent with the requirements of the Office of Management and Budget (OMB) Circular A-130, Section 8b(3), Securing Agency Information Systems, as analyzed in A-130, Appendix IV: Analysis of Key Sections. Supplemental information is provided in A-130, Appendix III.

This recommendation has been prepared for use by Federal agencies. It may be used by non-governmental organizations on a voluntary basis and is not subject to copyright. Nothing in this document should be taken to contradict standards and guidelines made mandatory and binding on Federal agencies by the Secretary of Commerce under statutory authority. Nor should this recommendation be interpreted as altering or superseding the existing authorities of the Secretary of Commerce, Director of the Office of Management and Budget, or any other Federal official.

### **1.2 Purpose and Scope**

The purpose of this document is to provide additional recommendations on the Personal Identity Verification (PIV) Card color-coding for designating employee affiliation. Compliance with this document is voluntary, however, a department or agency shall not claim compliance unless it adheres to all requirements of this document. This document is not intended to contradict requirements specifically identified in Federal Information Processing Standard 201 (FIPS 201) or its associated documents, nor to limit options permitted by FIPS 201 except as explicitly stated herein. This document is intended to refine FIPS 201 to enable reliable visual verification of the PIV Card.

## 2. Color-coding for Employee Affiliation

### 2.1 Zones 15 and 12

This section provides a color-coding scheme for Zones 15 and 12 to describe employee affiliation using FIPS 201 color designations. Figure 1 illustrates use of Zones 15 and 12 to color-code employee affiliation.

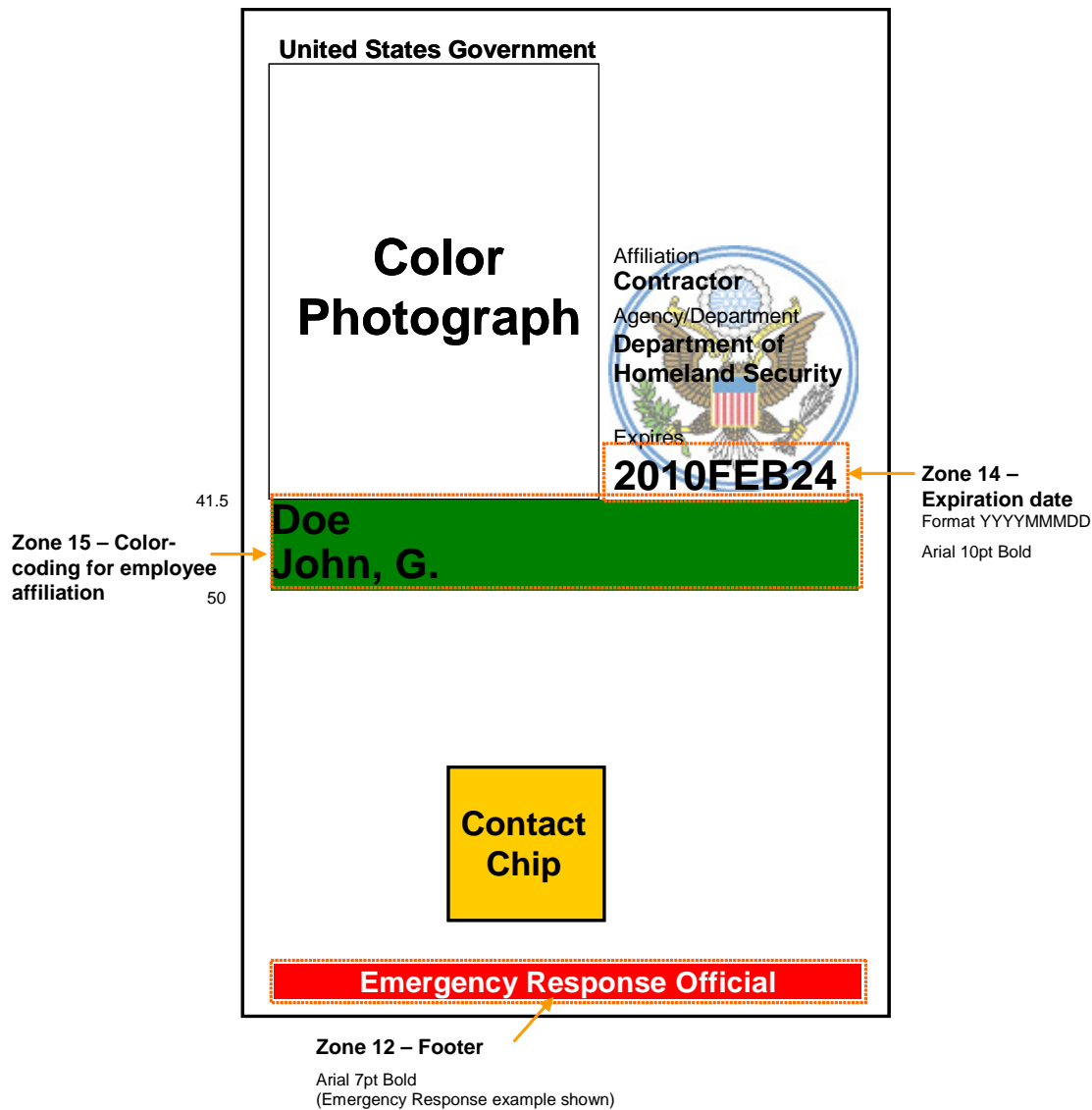


Figure 1. Employee Affiliation Color-coding

Zone 15 shall be color-coded using one of the following colors:

- + Blue—Foreign National
- + White—Government employees
- + Green—Contractors

Note that the foreign national, when used, has precedence over the government employee or contractor.

If an agency needs to highlight emergency response officials, Zone 12 shall be used to identify these affiliations. The department or agency must print “Emergency Response Official” with white lettering within a text box with red background.

If a department or an agency does not need to highlight emergency response officials and would like to denote country of citizenship, Zone 12 may be used to denote citizenship. If so used, a department or an agency shall print the country name or the three letter country abbreviation (alpha-3 format) in accordance with ISO 3166-1, Country Codes. [ISO 3166] If so used and an applicant is a US citizen with multiple citizenships, US citizenship shall be depicted in Zone 12. Figure 2 illustrates an example of foreign national color-coding using country abbreviations.

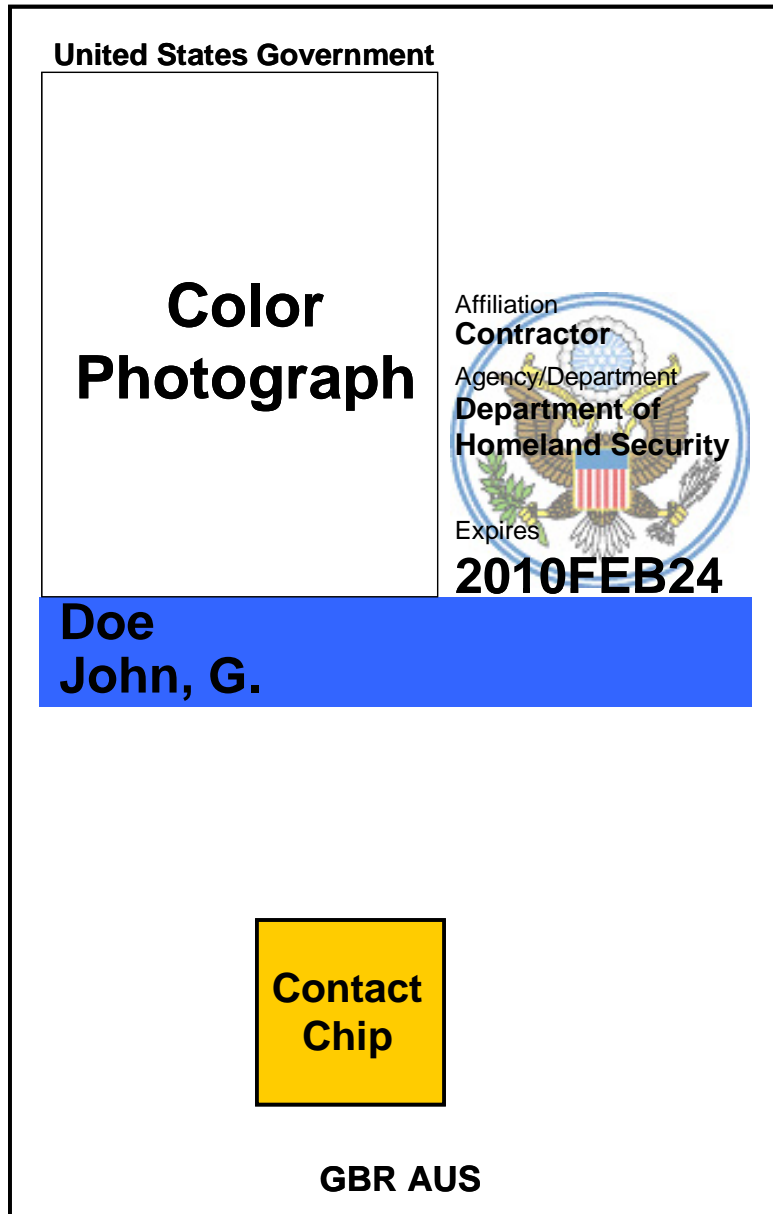


Figure 2. Foreign National Color-coding

When both emergency response official and country name need to be depicted in Zone 12, the emergency response official affiliation takes precedence.

## 2.2 Zones 13 and 14

Zone 13, issue date, shall be absent or contain the card issuance date data label printed in Arial 5pt and the issue date printed in Arial 6pt Bold.

Zone 14, expiration date, shall contain the card expiration date data label printed in Arial 5pt and the expiration date printed in Arial 10pt Bold.

## 2.3 Color Representation

Table 1 provides quantitative specifications for colors in four color systems. The colors are specified in the Pantone<sup>1</sup>, RGB (Red Green Blue), sRGB (IEC 61966-2-1, Color management – default RGB color space), and CMYK (Cyan, Magenta, Yellow and Key or ‘black’) systems. [IEC 61966] Since the card body is white, the white color-coding is achieved by the absence of printing. Note that [FIPS 201] requires the presence of one or more security features that may overlap colored or printed regions, thus modifying the perceived color. In the case of colored regions, the effect of overlap shall not prevent the recognition of the principal color by a person with normal vision (corrected or uncorrected) at a working distance of 50 cm to 200 cm.

**Table 1. Color Representation**

Color	Zone	Pantone Color Cue™	RGB Value {R,G,B}	sRGB Value (IEC 61966-2-1)	CMYK Value {C,M,Y,K}
White	15		{255, 255, 255}	{255, 255, 255}	{0, 0, 0, 0}
Green	15	354C	{51,162,61}	{124, 209, 134}	{80, 0, 90, 0}
Blue	12	299C	{42,142,191}	{113, 197, 224}	{85, 19, 0, 0}
Red	12	032C	{253, 27, 20}	{254, 92, 79}	{0, 90, 86, 0}

<sup>1</sup> Pantone is a registered name protected by copyright laws.



### 3. References

- [FIPS 201] Federal Information Processing Standard 201-1, Change Notice 1, Personal Identity Verification (PIV) of Federal Employees and Contractors, March 2006. (See <http://csrc.nist.gov>)
- [IEC 61966] IEC 61966-2-1:1999. Multimedia systems and equipment - Colour measurement and management - Part 2-1: Colour management - Default RGB colour space - sRGB
- [ISO 3166] ISO 3166-1:2006. Codes for the representation of names of countries and their subdivisions -- Part 1: Country codes.